REMARKS

Claims 1 and 2 are pending in the instant application. Claims 1 and 2 have been rejected. Claims 1 and 2 have been amended. No new matter has been added by this amendment. Reconsideration is respectfully requested in light of the following remarks.

I. Objection to the Drawings

The drawings have been objected to under 37 CFR 1.83(a) because the Examiner suggests that the drawings and specification indicate that the limitation of a passive isolator and a non-linear spring as two separate elements in claim 1 must be shown or the features canceled from the claim. Applicants respectfully disagree.

As depicted in Figure 1, the passive isolator device of claim 1 has a non-linear force-deflection characteristic and operating point and is composed of a pneumatic actuator which varies the operating point of said isolator along said force-deflection characteristic. The elements of the pneumatic actuator of claim 1 include at least one upper pressure chamber, a non-linear spring, and one lower pressure chamber. Accordingly, claim 1 has been amended to clarify the elements of the claimed device in accordance with Figure 1. Withdrawal of this objection is therefore respectfully requested.

II. Objection to the Claims

Claims 1 and 2 have been objected to because of the inconsistency in the use of the term "nonlinear" as claims 1 and 2 also recite "non-linear". Applicants have made the appropriate

correction to claims 1 and 2 and respectfully request that this objection be withdrawn.

III. Rejection of Claims Under 35 U.S.C. §112

Claim 1 has been rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In particular, the Examiner suggests that claim 1 recites both a passive isolator and a non-linear spring; however, it is suggested that the remarks filed 6/23/03 and the specification indicate that the passive isolator and the non-linear spring are the same element or at least one element comprising the other. As indicated *supra*, Applicants have amended claim 1 to clarify that the passive isolator is composed of a pneumatic actuator, wherein the pneumatic actuator includes at least one upper pressure chamber, a non-linear spring, and one lower pressure chamber. Having clarified the elements of the instant device, Applicants respectfully request that this rejection be withdrawn.

IV. Rejection of Claims Under 35 U.S.C. §102

Claim 2 has been rejected under 35 U.S.C. §102(b) as being anticipated by JP-2000291725 (JP '725). The Examiner suggests that figure 1 of JP '725 shows a device for adaptive vibration attenuation comprising a passive isolator with a non-linear force-deflection characteristic and a mechanical actuator **14a,18,22,28** which varies an operating point of the passive isolator along the force-deflection characteristic, wherein the mechanical actuator is comprised of a coiled spring **28**, a load

supporting rod **18**, a non-linear spring **14a** and a means **22** for externally controlling a preload to the coiled spring whereby as the coiled spring force is varied, the load supporting rod transfers pressure to the non-linear spring via elements **12**, **16**, and **28**. Applicants respectfully traverse this rejection.

The abstract of JP '725 teaches a coiled spring **28**, a non-linear spring **14a** and an adjustment mechanism composed of rod **18** and nut **22** which can be used to "adjust amount of displacement of the spring in oscillation direction of damping mass". In contrast, the device of the instant invention is comprised of four distinct elements, *i.e.*, a coiled spring, a load supporting rod, a non-linear spring and a means for externally controlling a preload to said coiled spring. As JP '725 does not teach a load supporting rod this reference does not anticipate the device set forth in claim 2. It is therefore respectfully requested that this rejection be reconsidered and withdrawn.

V. Rejection of Claims Under 35 U.S.C. §103

Claim 1 has been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,361,031 in view of U.S. Patent No. 5,700,000. The Examiner suggests that the '031 patent teaches a device for adaptive vibration attenuation comprising a passive isolator **22** with a force-deflection characteristic and a pneumatic actuator **44,62**, and vacuum actuated valves which vary the operating point of the isolator along the force-deflection characteristic wherein the pneumatic actuator comprises at least one upper pressure chamber **44** a spring **22**, and one lower pressure chamber **32** wherein air pressure in the pressure chamber can be externally controlled and wherein the natural frequency of the

system is regulated by applying pressure to the upper pressure chamber or the lower pressure chamber, particularly the upper pressure chamber. The Examiner acknowledges that the '031 patent does not disclose that the force-deflection characteristic of the passive isolator is non-linear or that the passive isolator or spring **22** is non-linear; however, the '000 patent teaches the use of vibration attenuation device comprising a passive isolator or spring **2** with a non-linear force-deflection characteristic or being characterized as a non-linear spring. The Examiner suggests that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the passive isolator of the '031 patent to include a non-linear force-deflection characteristic of the '000 patent in order to provide a means of allowing good dampening and preventing shaking even at large amplitudes of perturbation as taught by the '000 patent. Applicants respectfully disagree.

In an earnest effort to clarify the passive isolator device of claim 1, Applicants have amended claim 1 to indicate that the upper pressure chamber and lower pressure are independent of one another. As depicted in Figure 1 and taught at page 5 and 6, both the upper pressure chamber **10** and lower pressure chamber **12** have an air inlet **40** and **50**, respectively, such that pressure can independently be applied to either the upper pressure chamber or lower pressure chamber without affecting the pressure of the other chamber. As such, applying pressure to the upper pressure chamber or the lower pressure chamber allows for regulation of the natural frequency of the device (see page 6, line 20, to page 7, line 10).

MPEP 2143 indicates that the combined references must teach or suggest all the claim limitations. As depicted in Figure 1, the device of the '031 patent discloses an upper pressure chamber **44** and lower pressure chamber **32** which are dependent upon one another via a valve seat **46** which, when open, allows communication between the lower pressure chamber and the upper pressure chamber. See also column 2, lines 31-33, of the '031 patent. Likewise, the '000 patent fails to teach independent upper and lower pressure chambers. Accordingly, whether alone or combined, these references fail to teach or suggest all the claim limitations and as a result fail to make the passive isolator of claim 1 obvious. It is therefore respectfully requested that this rejection be reconsidered and withdrawn.

VI. Conclusion

The Applicants believe that the foregoing comprises a full and complete response to the Office Action of record.

Attorney Docket No.: **SIT-0106**
Inventors: **Esche and Nazalewicz**
Serial No.: **09/954,994**
Filing Date: **September 18, 2001**

Accordingly, favorable reconsideration and subsequent allowance of the pending claims is earnestly solicited.

Respectfully submitted,

Jane Massey Licata
Registration No. 32,257

Date: **June 1, 2005**

Licata & Tyrrell P.C.
66 E. Main Street
Marlton, New Jersey 08053

(856) 810-1515